

BUMPLESS FLIP CHIP ASSEMBLY WITH SOLDER VIA

ABSTRACT

5 A flip chip assembly, and methods of forming the same, including a single or
multi-layer substrate having a plurality of via holes which serve as the connection between
the semiconductor device and substrate circuitry. The method of manufacturing the flip
chip assembly includes the steps of attaching an integrated circuit (IC) chip having a
plurality of input/output terminal pads to a rigid or flexible substrate having a plurality of
via holes. The via holes are aligned with the terminal pads so that the respective traces on
the substrate can be connected to the respective terminal pads through the via holes. After
10 attachment, the pre-deposited solder inside the via holes or on the terminal pads is re-
flowed. This re-flow soldering process electrically connects the IC chip to the substrate.
The solder can be deposited by plating, wave soldering, meniscus coating, and screen
printing techniques.

FOOTNOTES